

Claims:

1. (Currently amended) A method of manufacturing a polyisocyanurate foam insulation board, the method comprising:

contacting a stream of reactants that comprise an isocyanate-reactive compound with a stream of reactants that include an isocyanate compound to form a reaction product, where said step of contacting takes place in the presence of a blowing agent and nitrogen ~~or air~~, where the blowing agent is selected from the group consisting of alkanes, (cyclo)alkanes, hydrofluorocarbons, hydrochlorofluorocarbons, fluorocarbons, fluorinated ethers, alkenes, alkynes and noble gases, where the nitrogen is dissolved in the stream of reactants comprising the isocyanate-reactive compound, or the stream of reactants including the isocyanate compound, or both, and where the amount of nitrogen dissolved is an amount at least 1.25 times the Bunsen Coefficient for nitrogen dissolved in the stream ~~or air present at the time of said contacting is sufficient greater than 1.25 times the amount of the Bunsen Coefficient for nitrogen within the stream of reactants that comprise an isocyanate-reactive compound.~~

2-29 Cancelled

30. (New) The method of claim 1, where the nitrogen is dissolved in the stream including the isocyanate-reactive compound, and where the amount of nitrogen dissolved is an amount at least 1.5 times the Bunsen Coefficient for nitrogen dissolved in the stream.

31. (New) The method of claim 1, where the nitrogen is dissolved in the stream including the isocyanate-reactive compound, and where the amount of nitrogen dissolved is an amount at least 2.0 times the Bunsen Coefficient for nitrogen dissolved in the stream.

32. (New) The method of claim 1, where the blowing agent includes n-pentane, isopentane, cyclopentane, and mixtures thereof.

33. (New) The method of claim 32, where the blowing agent is devoid of hydrofluorocarbons and hydrochlorofluorocarbons.

34. (New) A method for increasing the dimensional stability of polyisocyanurate foams, the method comprising:

providing an A-side stream of reactants that include an isocyanate;

providing a B-side stream of reactants that include a isocyanate reactive component and a blowing agent selected from the group consisting of alkanes, (cyclo)alkanes, hydrofluorocarbons, hydrochlorofluorocarbons, fluorocarbons, fluorinated ethers, alkenes, alkynes and noble gases;

adding nitrogen to the A-side or B-side stream of reactants, where the amount of nitrogen added to the A-side or B-side stream of reactants is an amount sufficient to increase the volume of developing foam as it instantaneously leaves the mix head by at least 1.25.

35. (New) The method of claim 34, where the nitrogen is added to the B-side stream of reactants, and where the amount of nitrogen added to the B-side stream of reactants is an amount sufficient to increase the volume of the developing foam as it instantaneously leaves the mix head by at least 1.5.

36. (New) The method of claim 35, where the nitrogen is added to the B-side stream of reactants, and where the amount of nitrogen added to the B-side stream of reactants is an amount sufficient to increase the volume of the developing foam as it instantaneously leaves the mix head by at least 1.75.

37. (New) The method of claim 34, where the blowing agent includes n-pentane, isopentane cyclopentane, and mixtures thereof.

38. (New) The method of claim 37, where the blowing agent is devoid of hydrofluorocarbons and hydrochlorofluorocarbons.

39. (New) A method for increasing the dimensional stability of polyisocyanurate foams, the method comprising:

providing an A-side stream of reactants that include an isocyanate;

providing a B-side stream of reactants that include a isocyanate reactive component and a blowing agent selected from the group consisting of alkanes, (cyclo)alkanes, hydrofluorocarbons, hydrochlorofluorocarbons, fluorocarbons, fluorinated ethers, alkenes, alkynes and noble gases;

adding nitrogen to the A-side or B-side stream of reactants, where the amount of nitrogen added to the B-side stream of reactants is an amount sufficient to increase the amount of dissolved nitrogen within the B-side stream to at least 1.25 times the Bunsen Coefficient.

40. (New)The method of claim 39, where the nitrogen is added to the B-side stream of reactants, and where the amount of nitrogen added to the B-side stream of reactants is an amount sufficient to increase the amount of dissolved nitrogen within the B-side stream to at least 1.5 times the Bunsen Coefficient.

41. (New) The method of claim 40, where the nitrogen is added to the B-side stream of reactants, and where the amount of nitrogen added to the B-side stream of reactants is an amount sufficient to increase the amount of dissolved nitrogen within the B-side stream to at least 1.0 times the Bunsen Coefficient.